

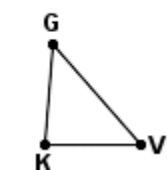
The Cosine Law

$$a^2 = b^2 + c^2 - 2bc \cos A$$

OR $b^2 = a^2 + c^2 - 2ac \cos B$ **OR** $c^2 = a^2 + b^2 - 2ab \cos C$

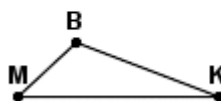
Use **the law of cosines** to solve for the unknown.

1.



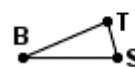
$$\begin{aligned}\angle G &= 46^\circ \\ \overline{KG} &= 25 \\ \overline{VG} &= 33.5 \\ \angle V &= \underline{\hspace{1cm}}^\circ\end{aligned}$$

2.



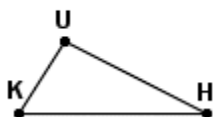
$$\begin{aligned}\overline{MB} &= 48 \\ \overline{MK} &= 120 \\ \overline{KB} &= 91.2 \\ \angle M &= \underline{\hspace{1cm}}^\circ\end{aligned}$$

3.



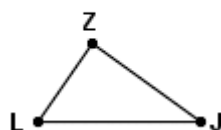
$$\begin{aligned}\angle S &= 74^\circ \\ \overline{BS} &= 47 \\ \overline{ST} &= 19 \\ \angle T &= \underline{\hspace{1cm}}^\circ\end{aligned}$$

4.



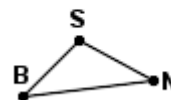
$$\begin{aligned}\overline{KU} &= 75.3 \\ \overline{KH} &= 164.5 \\ \overline{HU} &= 140 \\ \angle K &= \underline{\hspace{1cm}}^\circ\end{aligned}$$

5.



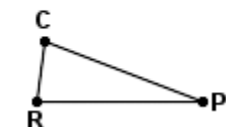
$$\begin{aligned}\overline{LZ} &= 80.6 \\ \overline{LJ} &= 138.9 \\ \overline{JZ} &= 114.9 \\ \angle Z &= \underline{\hspace{1cm}}^\circ\end{aligned}$$

6.



$$\begin{aligned}\angle N &= 36^\circ \\ \overline{BN} &= 72.2 \\ \overline{NS} &= 46.7 \\ \angle S &= \underline{\hspace{1cm}}^\circ\end{aligned}$$

7.



$$\begin{aligned}\overline{RC} &= 30 \\ \overline{RP} &= 83 \\ \overline{PC} &= 85 \\ \angle C &= \underline{\hspace{1cm}}^\circ\end{aligned}$$

8.



$$\begin{aligned}\overline{AV} &= 26.4 \\ \overline{AH} &= 69.6 \\ \overline{HV} &= 64.8 \\ \angle H &= \underline{\hspace{1cm}}^\circ\end{aligned}$$

9.



$$\begin{aligned}\angle F &= 86^\circ \\ \overline{CF} &= 24.5 \\ \overline{ZF} &= 65.1 \\ \angle Z &= \underline{\hspace{1cm}}^\circ\end{aligned}$$